

REMARKS

Claims 1-32 and 34-67 are pending. Claim 33 is canceled. Claims 49 to 67 have been withdrawn from consideration. Claim 36 is currently amended. No new subject matter has been added. Reconsideration of the application is requested.

Restriction/Election

The Examiner indicates that new claims 49-67 are subject to a restriction requirement, as they are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

- I. Claims 1-32 and 34-48 are drawn to a fluoropolymer laminate structure classified in class 428, subclass 421.
- II. Claims 49-67 are drawn to a resin composition, classified in class 528, subclass 310+.

Applicants have withdrawn claims 49 to 67 from prosecution and elect to proceed with Group I, including claims 1-32 and 34-48.

§112 Rejections

Claim 36 is rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards (or Applicants regard) as the invention. In particular, claim 36 is vague and indefinite because it is dependent on a cancelled claim.

Claim 36 has been amended to depend from claim 1. Accordingly, Applicants submit that the rejection of claim 36 under 35 USC §112, second paragraph, has been overcome, and that the rejection should be withdrawn.

§103 Rejections**Claims 1, 6-7, 9-13, 19-21, 25-27, 32, 35, 37-39 and 44**

Claims 1, 6-7, 9-13, 19-21, 25-27, 32, 35, 37-39 and 44 are rejected under 35 USC §103(a) as being unpatentable over WO98/08679 (WO '679) in view of Coran et al. (US 4323625). Applicants respectfully traverse the rejection and request reconsideration.

The Office Action states that WO '679 discloses all of Applicants' claimed features except the "presence of a non-fluorinated thermoplastic having pendent phenolic groups mixed with a base." See Office Action, page 4. The Office Action further states that US 4323625 discloses "modify[ing] polyolefin polymers with pendent phenolic groups to produce thermoplastic compositions with improved dispersion of and adhesion to fillers to form useful reinforced resin materials." See Office Action, page 4. In addition, the Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to use the phenol-modified polyolefin compositions disclosed in US 4323625 as the non-fluorinated thermoplastic component of WO '679. See Office Action, pages 4-5.

Neither WO '679 nor US 4323625 discloses each and every limitation recited in Applicants' claims because neither reference discloses "provided that when the pendant phenolic group of the substantially non-fluorinated thermoplastic polymer is derived from the reaction of a functionalized olefin with a bisphenol, substantially no organo-onium is present." Accordingly, Applicants submit that independent claim 1 is patentably distinct over the cited art. Furthermore, neither WO '679 nor US 4323625 discloses each and every limitation recited in Applicants' claims because neither reference discloses "provided that when the substantially non-fluorinated thermoplastic polymer of the second layer comprises a polyolefin derived from the reaction of a functionalized polyolefin and a base, substantially no organo-onium is used." As such, Applicants submit that independent claims 37 and 44 are patentably distinct over the cited art. Because the remaining claims depend directly or indirectly from allowable base claims, Applicants submit that the dependent claims are also patentably distinct over the cited art.

Applicants further submit that one of ordinary skill in the art would not look to the disclosure of US 4323625 to modify the teachings of WO '679 because US 4323625 teaches away from WO '679. US 4323625 is directed to "discontinuous cellulose fibers mixed with certain modified crystalline olefin polymers." See US 4323625, col. 2, lines 35-37. As such, the

disclosure of US 4323625 pertains to bonding discontinuous cellulose fibers to polyolefins and to treating such fibers in order to reduce fiber-to-fiber interactions thereby facilitating mixing of the fibers into the polyolefins. *See* US 4323625, Abstract. This is a distinctly different class of materials than the multilayer articles disclosed in WO '679 because the composites disclosed in US 4323625 do not comprise fluoropolymers. Moreover, US 4323625 does not contemplate bonding non-fluorinated materials to fluorinated materials. Rather, the class of materials disclosed in US 4323625, namely fiber reinforced composites, is desirable because it provides strength and stiffness as described in col. 1, lines 42-48 of US 4323625 shown below:

[a]dvantageously, the fibers contained in the composites of the invention can be oriented to a greater or lesser degree, providing products having a greater strength and stiffness in the direction of orientation. Random fiber orientation, however, may be produced if isotropic composites are desired, having the same degree of strength and stiffness in all directions.

Contrarily, the class of materials disclosed in WO '679, namely composites having fluorinated and non-fluorinated layers, is desirable because they exhibit high thermal stability while exhibiting "extreme toughness and flexibility at very low temperatures." *See* WO '679, page 1, lines 16-19. Based on the foregoing, Applicants respectfully submit that one of ordinary skill in the art would not look to the rigid, fiber reinforced polyolefins disclosed in US 4323625 to be used as the non-fluorinated thermoplastic component of WO '679.

The rejection of claims 1, 6-7, 9-13, 19-21, 25-27, 32, 35, 37-39 and 44 under 35 USC § 103(a) as being unpatentable over WO '679 in view of US 4323625 has been overcome and should be withdrawn.

Claims 1-5, 8-13, 26-27, 32 and 44

Claims 1-5, 8-13, 26-27, 32 and 44 are rejected under 35 USC §103(a) as being unpatentable over WO96/05965 (WO '965) in view of Coran et al. (US 4323625). Applicants respectfully traverse the rejection and request reconsideration.

The Office Action states that WO '965 discloses all of Applicants' claimed features except the "presence of a non-fluorinated thermoplastic having pendent phenolic groups mixed with a base." *See* Office Action, page 6. The Office Action further states that US 4323625

discloses “modify[ing] polyolefin polymers with pendent phenolic groups to produce thermoplastic compositions with improved dispersion of and adhesion to fillers to form useful reinforced resin materials.” *See* Office Action, page 6. In addition, the Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to use the phenol-modified polyolefin compositions disclosed in US 4323625 as the non-fluorinated thermoplastic component of WO ‘965. *See* Office Action, page 6.

Neither WO ‘965 nor US 4323625 discloses each and every limitation recited in Applicants’ claims because neither reference discloses “provided that when the pendant phenolic group of the substantially non-fluorinated thermoplastic polymer is derived from the reaction of a functionalized olefin with a bisphenol, substantially no organo-onium is present.” Accordingly, Applicants submit that independent claim 1 is patentably distinct over the cited art. Furthermore, neither WO ‘965 nor US 4323625 discloses each and every limitation recited in Applicants’ claims because neither reference discloses “provided that when the substantially non-fluorinated thermoplastic polymer of the second layer comprises a polyolefin derived from the reaction of a functionalized polyolefin and a base, substantially no organo-onium is used.” As such, Applicants submit that independent claim 44 is patentably distinct over the cited art. Because the remaining claims depend directly or indirectly from allowable base claims, Applicants submit that the dependent claims are also patentably distinct over the cited art.

Applicants further submit that one of ordinary skill in the art would not look to the disclosure of US 4323625 to modify the teachings of WO ‘965 because US 4323625 teaches away from WO ‘965. US 4323625 is directed to “discontinuous cellulose fibers mixed with certain modified crystalline olefin polymers.” *See* US 4323625, col. 2, lines 35-37. As such, the disclosure of US 4323625 pertains to bonding discontinuous cellulose fibers to polyolefins and to treating such fibers in order to reduce fiber-to-fiber interactions thereby facilitating mixing of the fibers into the polyolefins. *See* US 4323625, Abstract. This is a distinctly different class of materials than the multilayer articles disclosed in WO ‘965 because the composites disclosed in US 4323625 do not comprise fluoropolymers. Moreover, US 4323625 does not contemplate bonding non-fluorinated materials to fluorinated materials. Rather, the class of materials disclosed in US 4323625, namely fiber reinforced composites, is desirable because it provides strength and stiffness as described in col. 1, lines 42-48 of US 4323625 shown below:

[a]dvantageously, the fibers contained in the composites of the invention can be oriented to a greater or lesser degree, providing products having a greater strength and stiffness in the direction of orientation. Random fiber orientation, however, may be produced if isotropic composites are desired, having the same degree of strength and stiffness in all directions.

Contrarily, the class of materials disclosed in WO '965, namely composites having fluorinated and non-fluorinated layers, is desirable because they exhibit high thermal stability while exhibiting "extreme toughness and flexibility at very low temperatures." See WO '965, page 1, lines 15-21. Based on the foregoing, Applicants respectfully submit that one of ordinary skill in the art would not look to the rigid, fiber reinforced polyolefins disclosed in US 4323625 to be used as the non-fluorinated thermoplastic component of WO '965.

The rejection of claims 1-5, 8-13, 26-27, 32 and 44 under 35 USC § 103(a) as being unpatentable over WO '965 in view of US 4323625 has been overcome and should be withdrawn.

Allowable Subject Matter

Claims 14-18, 22-24, 28-31, 34, 40-43 and 45-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants respectfully submit that, for the aforementioned reasons, independent claims 1, 37 and 44 are allowable over the cited art and, as such, claims 14-18, 22-24, 28-31, 34, 40-43 and 45-48 are also allowable because they depend directly or indirectly from allowable base claims. Accordingly, Applicants request that the present objection be withdrawn.

Claim 36 would be allowable if rewritten to overcome the rejection under 35 USC §112, 2nd paragraph, and to include all of the limitations of the base claim and any intervening claims. Claim 36 has been amended to depend directly from independent claim 1, which Applicants submit is an allowable base claim. Accordingly, Applicants assert that claim 36 is now allowable and request that this objection be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance.
Examination and reconsideration of the application is requested.

Respectfully submitted,

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Date

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